

REMARKS

Claims 1-18 were examined in the Office Action mailed June 15, 2006.

In response to the Examiner's helpful comments regarding the wording of the Abstract, Specification and Claims, the Applicants have revised these elements of the application.

The Abstract has been amended to use a single paragraph, and to improve clarity.

The Specification is being revised to improve readability of the English translation of the original Japanese application. A substitute specification is to be submitted under separate cover.

Finally, the claims have been significantly amended to improve clarity and address the § 101 and § 112 rejections. New claim 19 replaces original claim 1 (with corresponding dependency changes in the remaining claims, claims 1-3, 5-7, 9-10 and 12 have been cancelled (without prejudice to the subject matter therein), and new claims 20-21 depending from new claim 19 have been added.

In view of the foregoing amendments and following remarks, reconsideration and withdrawal of the pending objections and rejections is respectfully requested.

1. Section 101 Rejection: The Applicants have cancelled claim 1, thereby rendering the 35 U.S.C. § 101 rejection of this claim moot. New claim 19 was drafted in a manner which does not raise a similar §101 concern.

2. Section 112 Rejections: The following addresses each of the pending § 112 rejections:

Claims 1 and 3 (not enabled): Rendered moot by cancellation.

Claims 2-3 (antecedent basis: “the other wheels”): Rendered moot by cancellation; issue considered and addressed in new claim 19.

Claims 9, 11 and 14 (antecedent basis: “the single unit”): Partially rendered moot by cancellation of claim 9; issue resolved by amendment of claims 11 and 14 to refer to “the assembly,” for which antecedent basis is provided by new claim 19’s “a single assembly.”

Claims 3 and 10 (mixed apparatus and method steps): Rendered moot by cancellation.

3. Rejections Under § 102 and § 103: The Applicants respectfully traverse the rejection of claims 1-5 and 15-16 under 35 U.S.C. § 102(b) as anticipated by Japanese patent application no. 2022-218601 (“Yutaka”), the rejection of claims 6-12, 14 and 17-18 under 35 U.S.C. § 103(a) as unpatentable over Yutaka, and the rejection of claim 13 under § 103(a) as unpatentable over Yutaka in view of U.S. Patent No. 6,484,832 to Morisawa, *et al.*, (“Morisawa”), on the grounds that these references fail to disclose or suggest all of the features of the present invention recited in amended claims 4, 8, 11 and 13-21.

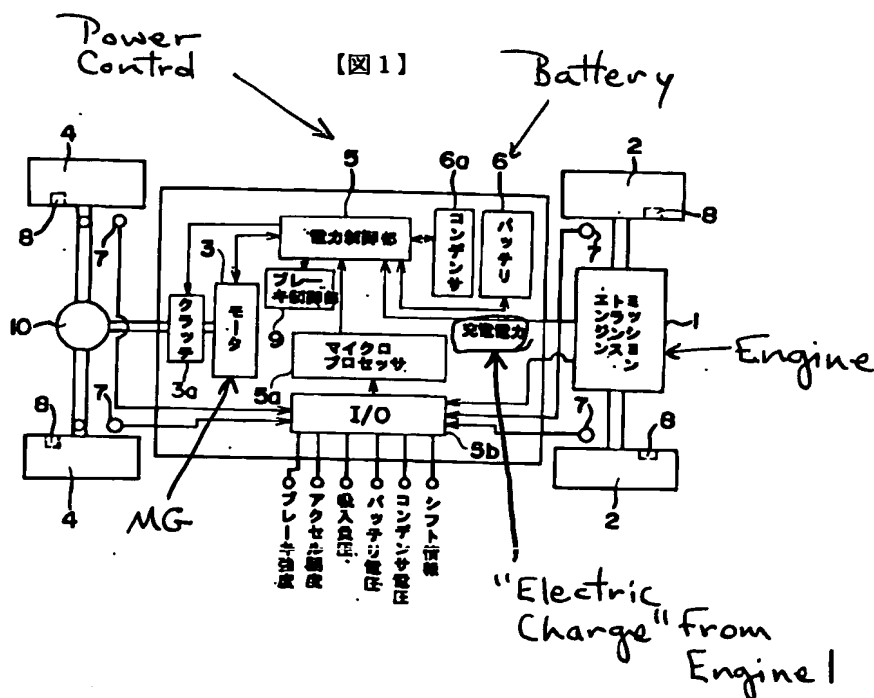
The Present Invention: As recited in new claim 19, the present invention is directed to a vehicle drive train unit used in a vehicle in which some wheels are driven by an engine, and other wheels are driven by a motor-generator

("MG"). The motor-generator, its capacitor device and translator (*i.e.*, inverter) are integrated into a single assembly; the assembly is independent of the engine's electric system of the engine and is integrally joined with a differential gear for transmitting the power of the motor-generator to the wheels.

This novel design and arrangement offers a variety of cost, efficiency and vehicle layout advantages, including: elimination of expensive and space-consuming/difficult to route power cables for connecting the motor and engine systems (made possible because the vehicle drive train unit for an engine-motor hybrid vehicle can be electrically independent from the electric power system of the engine drive system); the wire harness for interconnection of the capacitor device, MG, inverter can be simplified by virtue of the highly integrated nature of the motorized drive train unit, saving wiring cost and decreasing power losses in the wiring; improved drive train installation and vehicle assembly efficiencies (and associated lower costs due to integration of the motorized vehicle drive train system components a single assembly; and realization of a highly compact and lightweight vehicle drive train system at low cost.

The Yutaka Reference: Yutaka discloses a regenerative brake system including a motor-generator (3) which drives wheels (4), a capacitor device including at least one of a battery (6) and a capacitor, and a power control device (5) for the motor-generator (3). Importantly, Yutaka discloses a direct electrical linkage between its engine (1) and its motor-generator drive system. As shown in the reproduction of the Yutaka Fig. 1, below (best available quality), Yutaka

shows that electrical energy from the engine (1) is delivered directly to power control unit (5), i.e., in addition to electric energy regenerated by the motor-generator (3) during regenerative braking being delivered to the battery, electric energy produced by the engine (1) during usual running (non-regenerative braking) is also charged into the battery (6). See Yutaka ¶ [0022]; Fig. 1 (the “electric charge” indicated by arrow from the engine (1) to the power control (5)):



Therefore, the electric system for the motor-generator (3) in Yutaka is not electrically independent of an electric system of the engine, contrary to the present invention. Yutaka additionally does not teach that the motor-generator (3), its capacitor device (6) and translator are integrated into a single assembly.

Accordingly, for at least the reasons that Yutaka does not disclose or

suggest claim 19's limitation "wherein the assembly is independent of an electric system of the engine, and integrally joined with a differential gear for transmitting the power of the motor-generator to the wheels," claim 19 and its dependent claims are patentable over Yutaka under § 102 and § 103.

Reconsideration and withdrawal of the pending rejections based on Yutaka is respectfully requested.

CONCLUSION

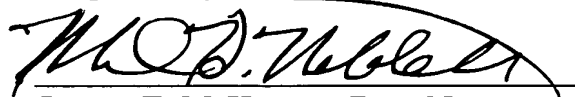
Entry of the foregoing requested amendments and issuance of a Notice of Allowance for claims 3, 8, 11 and 13-21 is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #056208.53953US).

November 15, 2006

Respectfully submitted,



James F. McKeown, Reg. No. 25,406
Mark H. Neblett, Reg. No. 42,028

CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844